

## SEQUENCE LISTING

&lt;110&gt; Bayer AG, BHC

&lt;120&gt; Method for inhibiting the replication of herpesviruses

&lt;130&gt; Le A 36 269

&lt;160&gt; 1

&lt;170&gt; PatentIn version 3.1

&lt;210&gt; 1

&lt;211&gt; 1370

&lt;212&gt; PRT

&lt;213&gt; Human cytomegalovirus

&lt;400&gt; 1

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Met Glu Asn Trp Ser Ala Leu Glu Leu Leu Pro Lys Val Gly Ile Pro
1      5      10      15
Thr Asp Phe Leu Thr His Val Lys Thr Ser Ala Gly Glu Glu Met Phe
20      25      30
Glu Ala Leu Arg Ile Tyr Tyr Gly Asp Asp Pro Glu Arg Tyr Asn Ile
35      40      45
His Phe Glu Ala Ile Phe Gly Thr Phe Cys Asn Arg Leu Glu Trp Val
50      55      60
Tyr Phe Leu Thr Ser Gly Leu Ala Ala Ala Ala His Ala Ile Lys Phe
65      70      75      80
His Asp Leu Asn Lys Leu Thr Thr Gly Lys Met Leu Phe His Val Gln
85      90      95
Val Pro Arg Val Ala Ser Gly Ala Gly Leu Pro Thr Ser Arg Gln Thr
100      105      110
Thr Ile Met Val Thr Lys Tyr Ser Glu Lys Ser Pro Ile Thr Ile Pro
115      120      125
Phe Glu Leu Ser Ala Ala Cys Leu Thr Tyr Leu Arg Glu Thr Phe Glu
130      135      140
Gly Thr Ile Leu Asp Lys Ile Leu Asn Val Glu Ala Met His Thr Val
145      150      155      160
Leu Arg Ala Leu Lys Asn Thr Ala Asp Ala Met Glu Arg Gly Leu Ile
165      170      175
His Ser Phe Leu Gln Thr Leu Leu Arg Lys Ala Pro Pro Tyr Phe Val
180      185      190
Val Gln Thr Leu Val Glu Asn Ala Thr Leu Ala Arg Gln Ala Leu Asn
195      200      205
Arg Ile Gln Arg Ser Asn Ile Leu Gln Ser Phe Lys Ala Lys Met Leu
210      215      220
Ala Thr Leu Phe Leu Leu Asn Arg Thr Arg Asp Arg Asp Tyr Val Leu
225      230      235      240
Lys Phe Leu Thr Arg Leu Ala Glu Ala Ala Thr Asp Ser Ile Leu Asp
245      250      255
Asn Pro Thr Thr Tyr Thr Thr Ser Ser Gly Ala Lys Ile Ser Gly Val
260      265      270
Met Val Ser Thr Ala Asn Val Met Gln Ile Ile Met Ser Leu Leu Ser
275      280      285
Ser His Ile Thr Lys Glu Thr Val Ser Ala Pro Ala Thr Tyr Gly Asn
290      295      300
Phe Val Leu Ser Pro Glu Asn Ala Val Thr Ala Ile Ser Tyr His Ser
305      310      315      320
Ile Leu Ala Asp Phe Asn Ser Tyr Lys Ala His Leu Thr Ser Gly Gln
325      330      335
Pro His Leu Pro Asn Asp Ser Leu Ser Gln Ala Gly Ala His Ser Leu
340      345      350
Thr Pro Leu Ser Met Asp Val Ile Arg Leu Gly Glu Lys Thr Val Ile

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| SQL Le A 36 269 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met             | Glu | Asn | Leu | Arg | Arg | Val | Tyr | Lys | Asn | Thr | Asp | Thr | Lys | Asp | Pro |
| 355             | 370 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Leu             | Glu | Arg | Asn | Val | Asp | Leu | Thr | Phe | Phe | Phe | Pro | Val | Gly | Leu | Tyr |
| 385             |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Leu             | Pro | Glu | Asp | Arg | Gly | Tyr | Thr | Thr | Val | Glu | Ser | Lys | Val | Lys | Leu |
|                 |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asn             | Asp | Thr | Val | Arg | Asn | Ala | Leu | Pro | Thr | Thr | Ala | Tyr | Leu | Leu | Asn |
|                 |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Arg             | Asp | Arg | Ala | Val | Gln | Lys | Ile | Asp | Phe | Val | Asp | Ala | Leu | Lys | Thr |
|                 |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Leu             | Cys | His | Pro | Val | Leu | His | Glu | Pro | Ala | Pro | Cys | Leu | Gln | Thr | Phe |
|                 | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Thr             | Glu | Arg | Gly | Pro | Pro | Ser | Glu | Pro | Ala | Met | Gln | Arg | Leu | Leu | Glu |
| 465             |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Cys             | Arg | Phe | Gln | Gln | Glu | Pro | Met | Gly | Gly | Ala | Ala | Arg | Arg | Ile | Pro |
|                 |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| His             | Phe | Tyr | Arg | Val | Arg | Arg | Glu | Val | Pro | Arg | Thr | Val | Asn | Glu | Met |
|                 |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Lys             | Gln | Asp | Phe | Val | Val | Thr | Asp | Phe | Tyr | Lys | Val | Gly | Asn | Ile | Thr |
|                 |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Leu             | Tyr | Thr | Glu | Leu | His | Pro | Phe | Phe | Asp | Phe | Thr | His | Cys | Gln | Glu |
|                 | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Asn             | Ser | Glu | Thr | Val | Ala | Leu | Cys | Thr | Pro | Arg | Ile | Val | Ile | Gly | Asn |
| 545             |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Leu             | Pro | Asp | Gly | Leu | Ala | Pro | Gly | Pro | Phe | His | Glu | Leu | Arg | Thr | Trp |
|                 |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Glu             | Ile | Met | Glu | His | Met | Arg | Leu | Arg | Pro | Pro | Pro | Asp | Tyr | Glu | Glu |
|                 |     |     | 580 |     |     |     |     | 585 |     |     |     |     | 590 |     |     |
| Thr             | Leu | Arg | Leu | Phe | Lys | Thr | Thr | Val | Thr | Ser | Pro | Asn | Tyr | Pro | Glu |
|                 |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Leu             | Cys | Tyr | Leu | Val | Asp | Val | Leu | Val | His | Gly | Asn | Val | Asp | Ala | Phe |
|                 | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |
| Leu             | Leu | Ile | Arg | Thr | Phe | Val | Ala | Arg | Cys | Ile | Val | Asn | Met | Phe | His |
| 625             |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     | 640 |
| Thr             | Arg | Gln | Leu | Leu | Val | Phe | Ala | His | Ser | Tyr | Ala | Leu | Val | Thr | Leu |
|                 |     |     |     | 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |
| Ile             | Ala | Glu | His | Leu | Ala | Asp | Gly | Ala | Leu | Pro | Pro | Gln | Leu | Leu | Phe |
|                 |     |     | 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |
| His             | Tyr | Arg | Asn | Leu | Val | Ala | Val | Leu | Arg | Leu | Val | Thr | Arg | Ile | Ser |
|                 |     | 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |
| Ala             | Leu | Pro | Gly | Leu | Asn | Asn | Gly | Gln | Leu | Ala | Glu | Glu | Pro | Leu | Ser |
|                 | 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |
| Ala             | Tyr | Val | Asn | Ala | Leu | His | Asp | His | Arg | Leu | Trp | Pro | Pro | Phe | Val |
| 705             |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     | 720 |
| Thr             | His | Leu | Pro | Arg | Asn | Met | Glu | Gly | Val | Gln | Val | Val | Ala | Asp | Arg |
|                 |     |     |     | 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |
| Gln             | Pro | Leu | Asn | Pro | Ala | Asn | Ile | Glu | Ala | Arg | His | His | Gly | Val | Ser |
|                 |     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |
| Asp             | Val | Pro | Arg | Leu | Gly | Ala | Met | Asp | Ala | Asp | Glu | Pro | Leu | Phe | Val |
|                 |     | 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |
| Asp             | Asp | Tyr | Arg | Ala | Thr | Asp | Asp | Glu | Trp | Thr | Leu | Gln | Lys | Val | Phe |
|                 | 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |
| Tyr             | Leu | Cys | Leu | Met | Pro | Ala | Met | Thr | Asn | Asn | Arg | Ala | Cys | Gly | Leu |
| 785             |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     | 800 |
| Gly             | Leu | Asn | Leu | Lys | Thr | Leu | Leu | Val | Asp | Leu | Phe | Tyr | Arg | Pro | Ala |
|                 |     |     |     | 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |
| Phe             | Leu | Leu | Met | Pro | Ala | Ala | Thr | Ala | Val | Ser | Thr | Ser | Gly | Thr | Thr |
|                 |     |     | 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |
| Ser             | Lys | Glu | Ser | Thr | Ser | Gly | Val | Thr | Pro | Glu | Asp | Ser | Ile | Ala | Ala |
|                 |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |
| Gln             | Arg | Gln | Ala | Val | Gly | Glu | Met | Leu | Thr | Glu | Leu | Val | Glu | Asp | Val |
|                 | 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |

## SQL Le A 36 269

|     |      |     |     |     |     |      |      |     |     |     |      |      |     |     |     |
|-----|------|-----|-----|-----|-----|------|------|-----|-----|-----|------|------|-----|-----|-----|
| Ala | Thr  | Asp | Ala | His | Thr | Pro  | Leu  | Leu | Gln | Ala | Cys  | Arg  | Glu | Leu | Phe |
| 865 |      |     |     |     | 870 |      |      |     |     | 875 |      |      |     |     | 880 |
| Leu | Ala  | Val | Gln | Phe | Val | Gly  | Glu  | His | Val | Lys | Val  | Leu  | Glu | Val | Arg |
|     |      |     | 885 |     |     |      |      |     | 890 |     |      |      |     | 895 |     |
| Ala | Pro  | Leu | Asp | His | Ala | Gln  | Arg  | Gln | Gly | Leu | Pro  | Asp  | Phe | Ile | Ser |
|     |      |     | 900 |     |     |      |      | 905 |     |     |      |      | 910 |     |     |
| Arg | Gln  | His | Val | Leu | Tyr | Asn  | Gly  | Cys | Cys | Val | Val  | Thr  | Ala | Pro | Lys |
|     |      | 915 |     |     |     | 920  |      |     |     |     |      | 925  |     |     |     |
| Thr | Leu  | Ile | Glu | Tyr | Ser | Leu  | Pro  | Val | Pro | Phe | His  | Arg  | Phe | Tyr | Ser |
|     | 930  |     |     |     |     | 935  |      |     |     |     | 940  |      |     |     |     |
| Asn | Pro  | Thr | Ile | Cys | Ala | Ala  | Leu  | Ser | Asp | Asp | Ile  | Lys  | Arg | Tyr | Val |
| 945 |      |     |     |     | 950 |      |      |     | 955 |     |      |      |     |     | 960 |
| Thr | Glu  | Phe | Pro | His | Tyr | His  | Arg  | His | Asp | Gly | Gly  | Phe  | Pro | Leu | Pro |
|     |      |     |     | 965 |     |      |      |     | 970 |     |      |      |     | 975 |     |
| Thr | Ala  | Phe | Ala | His | Glu | Tyr  | His  | Asn | Trp | Leu | Arg  | Ser  | Pro | Phe | Ser |
|     |      |     | 980 |     |     |      |      | 985 |     |     |      |      | 990 |     |     |
| Arg | Tyr  | Ser | Ala | Thr | Cys | Pro  | Asn  | Val | Leu | His | Ser  | Val  | Met | Thr | Leu |
|     |      | 995 |     |     |     |      | 1000 |     |     |     |      | 1005 |     |     |     |
| Ala | Ala  | Met | Leu | Tyr | Lys | Ile  | Ser  | Pro | Val | Ser | Leu  | Val  | Leu | Gln |     |
|     | 1010 |     |     |     |     | 1015 |      |     |     |     | 1020 |      |     |     |     |
| Thr | Lys  | Ala | His | Ile | His | Pro  | Gly  | Phe | Ala | Leu | Thr  | Ala  | Val | Arg |     |
|     | 1025 |     |     |     |     | 1030 |      |     |     |     | 1035 |      |     |     |     |
| Thr | Asp  | Thr | Phe | Glu | Val | Asp  | Met  | Leu | Leu | Tyr | Ser  | Gly  | Lys | Ser |     |
|     | 1040 |     |     |     |     | 1045 |      |     |     |     | 1050 |      |     |     |     |
| Cys | Thr  | Ser | Val | Ile | Ile | Asn  | Asn  | Pro | Ile | Val | Thr  | Lys  | Glu | Glu |     |
|     | 1055 |     |     |     |     | 1060 |      |     |     |     | 1065 |      |     |     |     |
| Arg | Asp  | Ile | Ser | Thr | Thr | Tyr  | His  | Val | Thr | Gln | Asn  | Ile  | Asn | Thr |     |
|     | 1070 |     |     |     |     | 1075 |      |     |     |     | 1080 |      |     |     |     |
| Val | Asp  | Met | Gly | Leu | Gly | Tyr  | Thr  | Ser | Asn | Thr | Cys  | Val  | Ala | Tyr |     |
|     | 1085 |     |     |     |     | 1090 |      |     |     |     | 1095 |      |     |     |     |
| Val | Asn  | Arg | Val | Arg | Thr | Asp  | Met  | Gly | Val | Arg | Val  | Gln  | Asp | Leu |     |
|     | 1100 |     |     |     |     | 1105 |      |     |     |     | 1110 |      |     |     |     |
| Phe | Arg  | Val | Phe | Pro | Met | Asn  | Val  | Tyr | Arg | His | Asp  | Glu  | Val | Asp |     |
|     | 1115 |     |     |     |     | 1120 |      |     |     |     | 1125 |      |     |     |     |
| Arg | Trp  | Ile | Arg | His | Ala | Ala  | Gly  | Val | Glu | Arg | Pro  | Gln  | Leu | Leu |     |
|     | 1130 |     |     |     |     | 1135 |      |     |     |     | 1140 |      |     |     |     |
| Asp | Thr  | Glu | Thr | Ile | Ser | Met  | Leu  | Thr | Phe | Gly | Ser  | Met  | Ser | Glu |     |
|     | 1145 |     |     |     |     | 1150 |      |     |     |     | 1155 |      |     |     |     |
| Arg | Asn  | Ala | Ala | Ala | Thr | Val  | His  | Gly | Gln | Lys | Ala  | Ala  | Cys | Glu |     |
|     | 1160 |     |     |     |     | 1165 |      |     |     |     | 1170 |      |     |     |     |
| Leu | Ile  | Leu | Thr | Pro | Val | Thr  | Met  | Asp | Val | Asn | Tyr  | Phe  | Lys | Ile |     |
|     | 1175 |     |     |     |     | 1180 |      |     |     |     | 1185 |      |     |     |     |
| Pro | Asn  | Asn | Pro | Arg | Gly | Arg  | Ala  | Ser | Cys | Met | Leu  | Ala  | Val | Asp |     |
|     | 1190 |     |     |     |     | 1195 |      |     |     |     | 1200 |      |     |     |     |
| Pro | Tyr  | Asp | Thr | Glu | Ala | Ala  | Thr  | Lys | Ala | Ile | Tyr  | Asp  | His | Arg |     |
|     | 1205 |     |     |     |     | 1210 |      |     |     |     | 1215 |      |     |     |     |
| Glu | Ala  | Asp | Ala | Gln | Thr | Phe  | Ala  | Ala | Thr | His | Asn  | Pro  | Trp | Ala |     |
|     | 1220 |     |     |     |     | 1225 |      |     |     |     | 1230 |      |     |     |     |
| Ser | Gln  | Ala | Gly | Cys | Leu | Ser  | Asp  | Val | Leu | Tyr | Asn  | Thr  | Arg | His |     |
|     | 1235 |     |     |     |     | 1240 |      |     |     |     | 1245 |      |     |     |     |
| Arg | Glu  | Arg | Leu | Gly | Tyr | Asn  | Ser  | Lys | Phe | Tyr | Ser  | Pro  | Cys | Ala |     |
|     | 1250 |     |     |     |     | 1255 |      |     |     |     | 1260 |      |     |     |     |
| Gln | Tyr  | Phe | Asn | Thr | Glu | Glu  | Ile  | Ile | Ala | Ala | Asn  | Lys  | Thr | Leu |     |
|     | 1265 |     |     |     |     | 1270 |      |     |     |     | 1275 |      |     |     |     |
| Phe | Lys  | Thr | Ile | Asp | Glu | Tyr  | Leu  | Leu | Arg | Ala | Lys  | Asp  | Cys | Ile |     |
|     | 1280 |     |     |     |     | 1285 |      |     |     |     | 1290 |      |     |     |     |
| Arg | Gly  | Asp | Thr | Asp | Thr | Gln  | Tyr  | Val | Cys | Val | Glu  | Gly  | Thr | Glu |     |
|     | 1295 |     |     |     |     | 1300 |      |     |     |     | 1305 |      |     |     |     |
| Gln | Leu  | Ile | Glu | Asn | Pro | Cys  | Arg  | Leu | Thr | Gln | Glu  | Ala  | Leu | Pro |     |
|     | 1310 |     |     |     |     | 1315 |      |     |     |     | 1320 |      |     |     |     |
| Ile | Leu  | Ser | Thr | Thr | Thr | Leu  | Ala  | Leu | Met | Glu | Thr  | Lys  | Leu | Lys |     |
|     | 1325 |     |     |     |     | 1330 |      |     |     |     | 1335 |      |     |     |     |
| Gly | Gly  | Ala | Gly | Ala | Phe | Ala  | Thr  | Ser | Glu | Thr | His  | Phe  | Gly | Asn |     |

